

**A NEW GENUS AND THREE NEW SPECIES
OF ERYTHRAEOIDEA**

(ACARINA: ERYTHRAEIDAE AND SMARIDIDAE)

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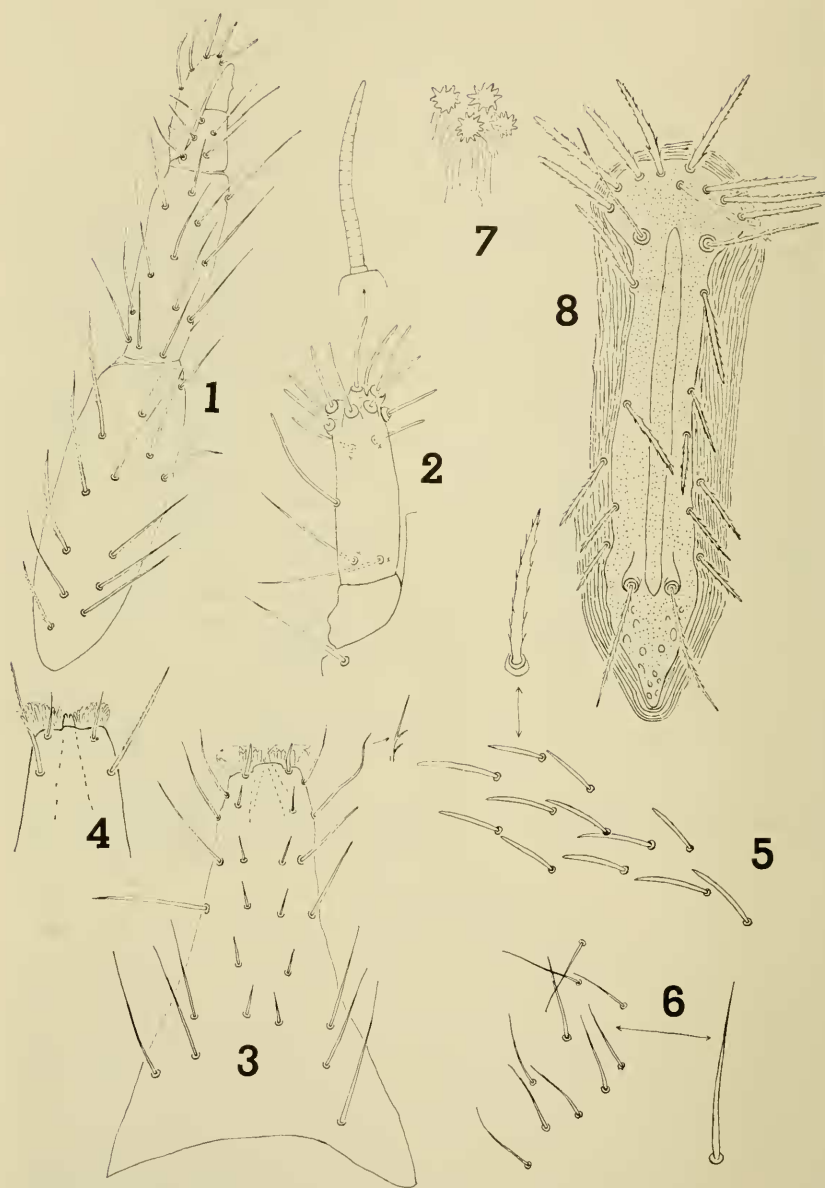
According to Baker and Wharton (1952), adults of the family Smarididae can be distinguished from those of the Erythraeidae by mouth parts that can be withdrawn into the body. Presently, this is the only practical character for separation; otherwise the resemblance between the families is marked. "Although in the adults the difference between these two families is striking—the presence of the armilla to the mouthparts being a character of undoubted family significance—in the larval Smarididae no feature can be seen in the mouthparts that can be considered of family significance" (Southcott, 1961). Southcott defines the *armilla* as the extensile collar bearing the gnathosoma in the Smarididae; the *armilla* is absent in the Erythraeidae. Also, Southcott (1946, 1948) used the tarsal claws to distinguish larval smaridids from erythraeids and (1961) presented a detailed account of the validity of this character. Included in the present paper are descriptions of two erythraeids belonging to the genera *Balaustium* Heyden and *Sphaerolophus* Berlese. The location of the eyes and sensory pits and the shape of the palpal tarsi will separate the two genera. A new genus, *Paraphanolophus*, is being erected to include a larval form belonging to the family Smarididae. The new species of *Balaustium* and *Sphaerolophus* were sent to me by Dr. W. L. Putman, Research Branch, Canada Department of Agriculture, Vineland Station, Ontario, Canada. The *Balaustium* species was reared and used in an insemination study (Putnam, 1966).

***Balaustium putmani*, n. sp.**

(Figs. 1–10)

This species is characterized by the anterior portion of the crista being truncate in both sexes.

Female. Palpi long and strong; palpal tibia with short, stout distal claw possessing a single tooth (fig. 1); palpal setae long and slender, lightly serrated, intermixed with simple setae; palpal tarsus elongate, longer than tibia, with 10–12 strong solenidia (fig. 2) apically. Anterior venter of gnathosoma (fig. 3) has a cupshaped structure, with fingerlike projections, and with a pair of spurs ventrally; medially with 5 pairs of short, lightly serrated setae and 7 pairs of similar but longer setae laterally and posteriorly. Anterior dorsum of gnathosoma (fig. 4) with a pair of short simple setae and a longer serrate pair. Setae (fig. 5) of dorsal propodosoma and hysterosoma serrated, subequal in length; those of venter (fig. 6) simple. A single pair of lenslike eyes and a single pair of sensory pits located at about the posterior level of the crista (fig. 9). Crista (fig. 8)



Figs. 1-8, *Balaustium putmani*, n. sp., ♀: 1, left palpus; 2, palpal tarsus; 3, venter of gnathosoma; 4, dorsum of gnathosoma; 5, dorsal setation; 6, ventral setation; 7, striae above crista metopica; 8, crista metopica.

long, narrow, lightly punctate, with a strongly sclerotized ribbonlike longitudinal median band; a pair of medium-length serrated sensory setae on the anterior and posterior area; posterior sensory setae arising from noselike projections of scutum; with 9 stout serrated setae anteriorly to the anterior sensory setae, 3 pairs of shorter setae, and a single subequal serrate seta between the anterior and posterior sensory setae. A fine distinct ornamentation of the striae (fig. 7) anteriorly to the crista. Legs I one-third longer than legs IV; legs II shortest; legs III slightly longer than legs II; legs IV slightly longer than legs III. Tarsus I (fig. 10) with simple setae dorsally (T); apically with few lightly serrated (A); laterally with solenidia (X) intermixed with many comblike setae (V) at the anterior ventral portion, extending to about midlength of tarsus; posteriorly and ventrally with few smaller serrated setae (Z). Tibia I dorsally with few serrated setae varying in length (A), and solenidia (X); laterally with many simple setae (T). Tarsus I 186 μ long and tibia I 226 μ long. Length of body, not including gnathosoma, 1600 μ .

Male. Crista metopica similar to that of female, long, narrow, lightly punctate, and with a strong sclerotized ribbonlike longitudinal median band; with a pair of slender serrated sensory setae on anterior and posterior area; with 5 stout serrated setae anteriorly to anterior sensory setae; 4 pairs of stout serrate setae between anterior and posterior sensory setae. Dorsal and ventral body setae similar to those of female. Length of body, not including gnathosoma, 840 μ .

Holotype. Female, Canadian National Collection No. 9451, was collected and reared from plum bark, Vineland Station, Ontario, Canada, by W. L. Putman, 28 August 1961 for whom the species is named.

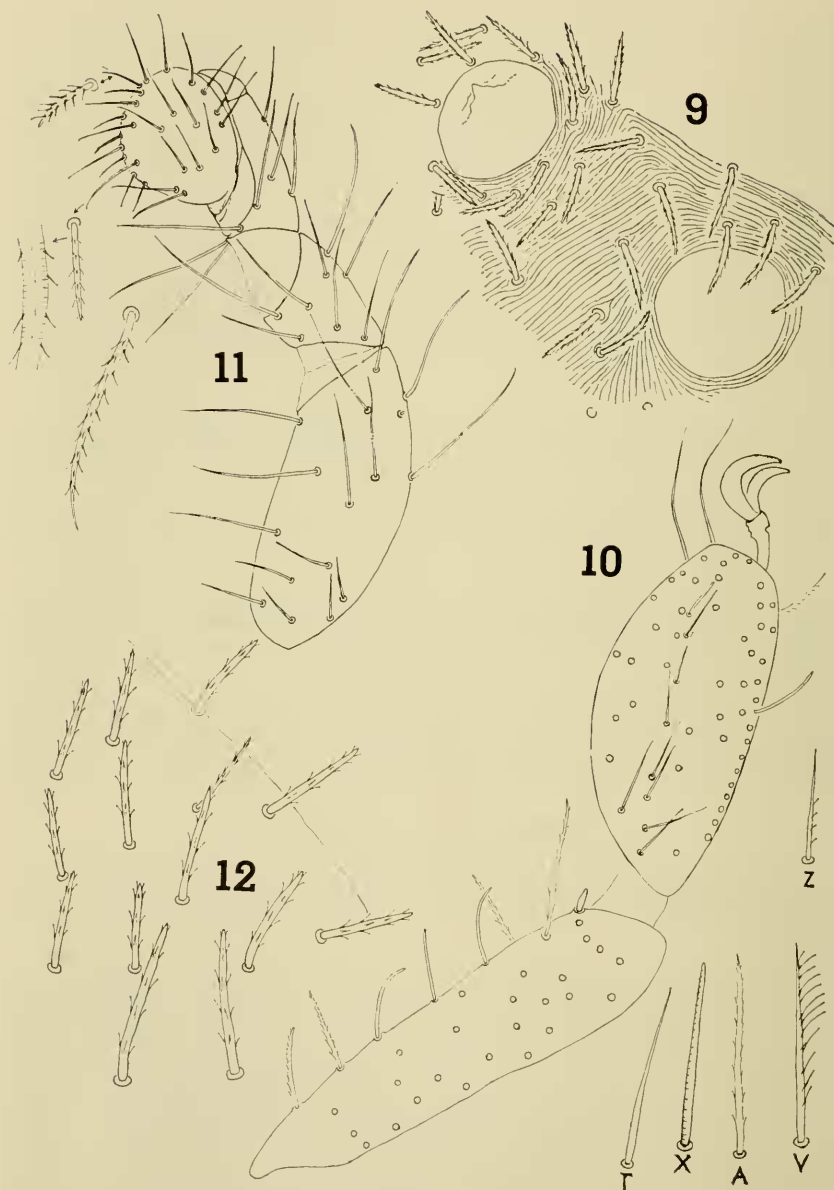
Paratypes. 2 males and 7 females with the above data. Three females and a male paratype are in the U. S. National Museum Collection, and the rest are in the Canadian National Collection.

***Sphaerolophus canadensis*, n. sp.**

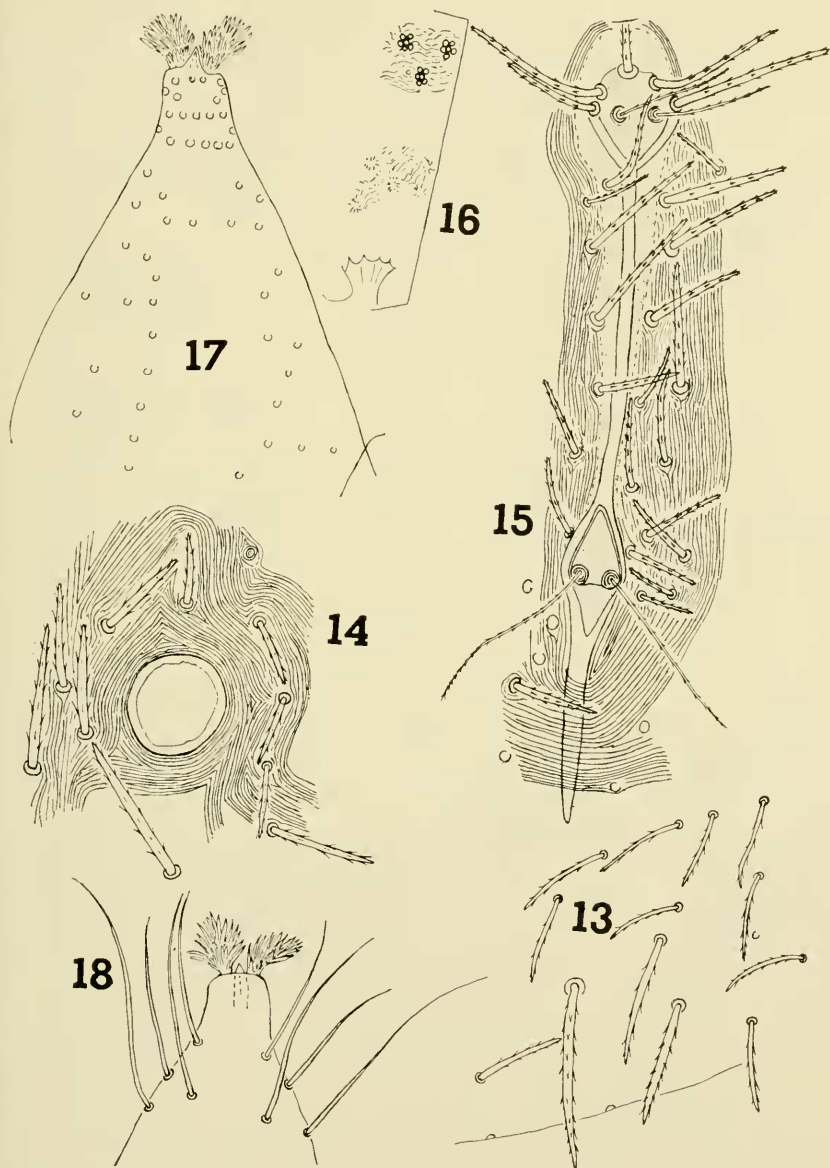
(Figs. 11–19)

This is the first species of this genus recorded from North America. The species is distinctive in that the posterior portion of the crista is beneath the cuticle.

Female. Palpi strong; palpal tibia with short claw (fig. 11); palpal tarsus strong, globe-shaped, with subequal finely serrated setae dorsally, and with few shorter finely serrated setae apically; with annulated solenidia ventrally. Setae of the dorsal propodosoma (fig. 12) strong, serrated, and subequal. Venter of propodosoma (fig. 13) with serrated setae varying in length and size. Dorsally a single pair of lenslike eyes (fig. 14) located adjacent to middle of crista. Crista (fig. 15) long, narrow, slightly rounded anteriorly and pointed posteriorly; with a narrow, ribbonlike, longitudinal band; anteriorly with a pair of slender, lightly serrated sensory setae and 5, long, stout, strong serrate setae; posteriorly with a single pair of serrated setae slightly longer than anterior pair; median lateral area of crista intermixed with 4 pairs of stout serrated setae varying in length and with 5 pairs of shorter and smaller serrated setae. Striae (fig. 16) anterior to crista as figured. Venter of gnathosoma (fig. 17) anteriorly with fingerlike projections and with 10 pairs of serrated setae; subequal in length; posteriorly



Figs. 9 and 10, *Balaustium putmani*, n. sp., ♀: 9, right eye; 10, right tarsus and tibia 1. Figs. 11 and 12, *Spaerolophus canadensis*, n. sp., ♀: 11, right palpus; 12, dorsal setation.



Figs. 13-18, *Spaerolophus canadensis*, n. sp., ♀: 13, ventral setation; 14, right eye; 15, crista metopica; 16, striae above crista metopica; 17, venter of gnathosoma; 18, dorsum of gnathosoma.

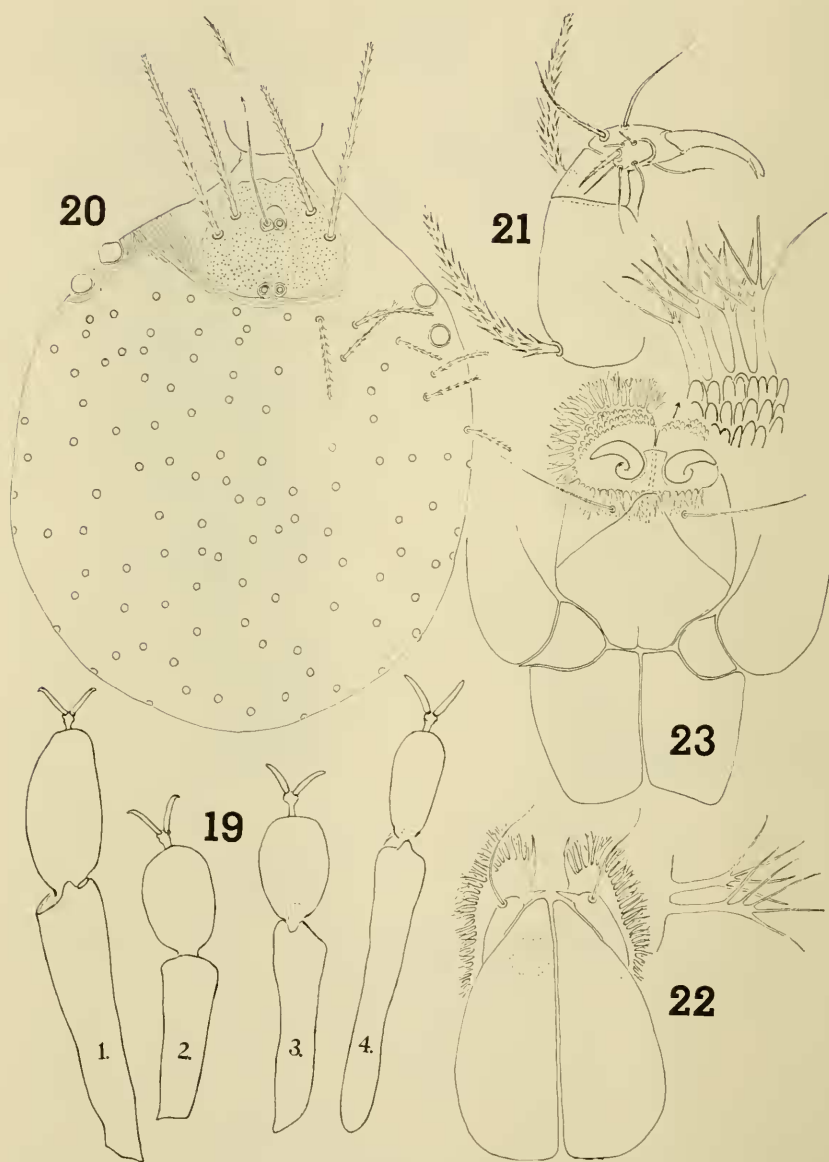
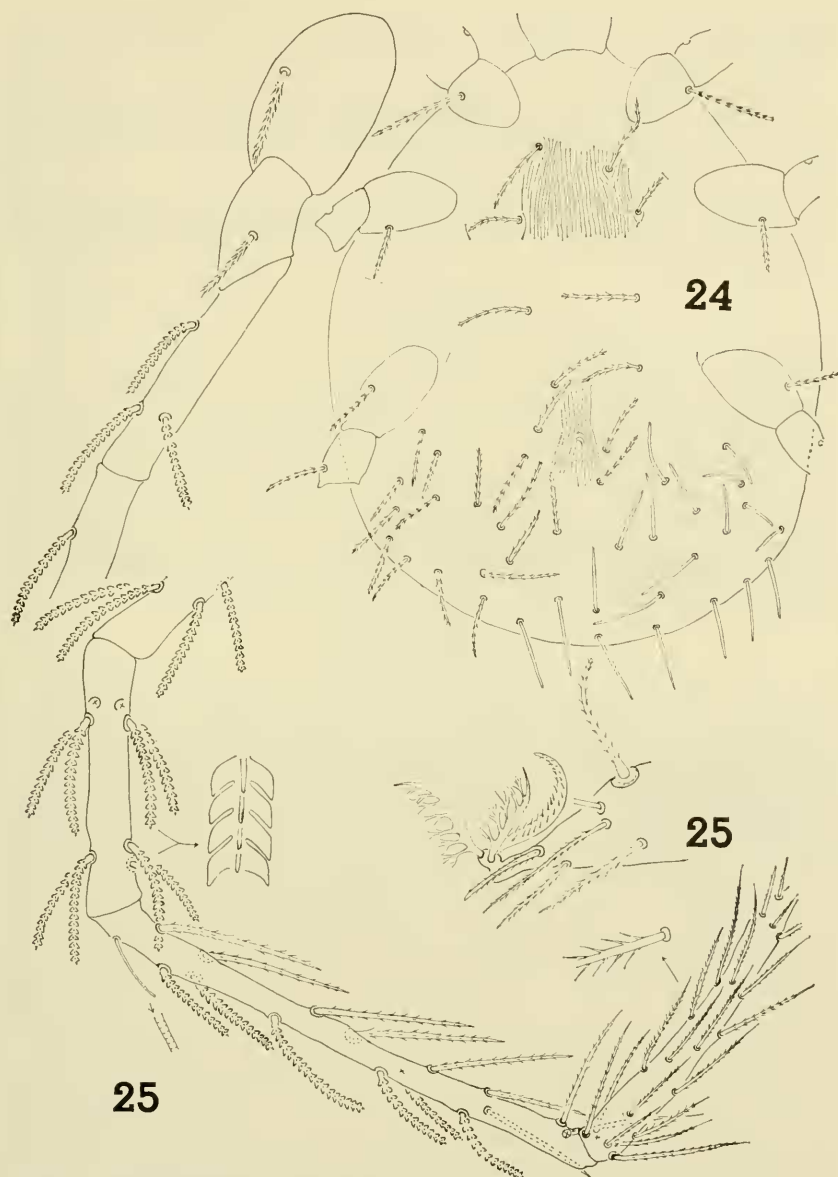


Fig. 19, *Spaerolophus canadensis*, n. sp., ♀: diagrammatic presentation of tarsi and tibiae I-IV. Figs. 20-23, *Paraphanolophus metcalfei*, n. sp., larva: 20, dorsum; 21, left palpus; 22, dorsum of gnathosoma; 23, venter of gnathosoma.



Figs. 24 and 25, *Paraphanolophus metcalfei*, n. sp., larva: 24, venter; 25, leg III.

with 30 pairs of longer and stronger serrated setae. Dorsum of gnathosoma with 4 pairs of finely serrated seta (fig. 18). Legs I longer than body; legs II shortest; legs III slightly longer than leg II, but not as long as legs I; legs IV longest; leg setae serrated, long, and numerous. Tarsi (fig. 19) of all legs slightly oval.

Tarsus I 253 μ long and tibia 493 μ . Length of body, not including gnathosoma, 1986 μ .

Male. Not known.

Holotype. Female, Canadian National Collection No. 9450, was collected from plum, Vineland Station, Ontario, Canada, 23 July 1964 by W. L. Putman.

Paratypes. Two females with the above data. A paratype is in the U. S. National Museum Collection and the Canadian National Collection.

Paraphanolophus, n. gen.

Type-species: *Paraphanolophus metcalfei*, n. sp.

This genus is distinctive in having the following: the tarsal claws are symmetrical and lightly ciliated along the ventral sides; the empodium is strong, falciform and nonpavilliform; the scutal sensilla bases (anteriorly and posteriorly) are close together; there are only 2 pairs of ventral setae in the area bounded by coxae II and III, and at the anterior level of coxae III and extending to the posterior of hysterosoma there are 45 pairs of serrate setae subequal in length. According to Southcott's (1961) key to the genera of the larval Smarididae, this species is near the genus *Phanolophus* Andre but differs by having the fore-mentioned characters.

Paraphanolophus metcalfei, n. sp.

(Figs. 20-25)

Larva. Body (fig. 20) globe-shaped with 2 eyes on each side near coxae II. Dorsal setae serrated, consistent in size and length medially; but varying in length marginally. Scutum rounded, excavated anteriorly, and lightly sclerotized; with a pair of long posterior and a pair of shorter anterior sensillae plus 2 pairs of serrated setae near antero lateral margin of scutum; second pair of serrated setae about one-fourth longer than first pair. Previous to remounting this specimen had all 4 sensillae. Venter of hysterosoma (fig. 24) with 45 pairs of serrate setae, subequal in length, smaller in size than setae of dorsum. Dorsum of gnathosoma (fig. 22) as figured. Venter of gnathosoma (fig. 23) with fingerlike projections and, surrounding oral cavity, the ciliae form a flange; with a pair of strong chelicerae; a pair of simple setae posterior to flange. Palpi (fig. 21) strong; palpal femur with a stout serrated seta, palpal genu with a stout serrated seta subequal in length to seta of femur; palpal tibia with 1 serrated and 2 simple setae (the anterior simple seta longer and stronger than posterior simple seta), with stout bifurcate distal claw; palpal tarsus with 2 subequal solenidia, 3 simple setae subequal in length, and an *eupathid*. Legs I and II subequal in length; legs III (fig. 25) slightly longer; all legs with coarse serrated setae and a few finer subequal serrated setae distally. Each tarsus with a strong distal *bothridon* dorsally and ventrally. Tarsus III 172 μ long and tibia III 346 μ long. Setal formula for legs I-III, coxae 1-1-1; trochanter 1-1-1; basifemora 4-4-4; telofemora 5-5-5; genua 9 + 2 - 8 - 8; tibiae 14 + 2 - 10 + 1 - 13 + 1; tarsi 24-24-24. The formula includes tactile and solenidia. Body, excluding gnathosoma, 680 μ long.

Adults and Nymphs. Not known.

Holotype. Larvae, USNM 3227, was collected on *Saccharosydne saccharivora* Westwood, British Honduras, 20 January 1967 by J. R. Metcalfe for whom this species is named.

Paratype. A larva with the above data is in the U. S. National Museum Collection.

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A REPORT ON THE SALDIDAE COLLECTED BY THE GALAPAGOS
INTERNATIONAL SCIENTIFIC PROJECT 1964
(HEMIPTERA)¹

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The following report is based on the material collected by members of the Galapagos International Scientific Project of 1964.² This material, exclusive of types, has been divided, as quantity permits, among the following individuals and institutions: California Academy of Sciences, R. L. Usinger, P. D. Ashlock, J. T. Polhemus, U. S. National Museum and B. P. Bishop Museum.

To date only one saldid has been noted from the Galapagos, *Pentacora sphacelata* (Uhler). This report adds a new species of the genus *Saldula* and notes on a saldid taken at light on a ship off Ecuador.

***Pentacora sphacelata* (Uhler)**

Salda sphacelata Uhler, 1877, *Bull. U. S. Geol. Geogr. Surv.* 3:434-436 (Massachusetts, Maryland).

Salda rubromaculata Heidemann, 1901, *Proc. Wash. Acad. Sci.* 3:368-369 (Albemarle I., Galapagos).

The specimens of this species from the Galapagos seem quite typical, with no apparent shift in characters from our mainland material. *P. sphacelata* has been collected along the west coast of the

¹ Contribution No. 83 from the Charles Darwin Foundation for the Galapagos.

² Supported in part by Grant GE-2370 from the National Science Foundation.